CHAPTER-II

REVIEW OF RELATED LITERATURE

The Literature Surveyed

2.1 Personality Patterns and Sociometry

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2.2.1 Tests of Drawings & Paintings to Interpret Personality

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REVIEW OF RELATED LITERATURE

Research takes advantage of the knowledge, which has accumulated in the past as a result of constant human endeavour. It can never be undertaken in isolation of the work that has already been done on the problem, which is directly or indirectly related to a study proposed by a researcher. A careful review of research journals, books, dissertations, theses and other sources of informations on the problem to be investigated is one of the important steps in the planning of any research study.

Therefore, the present investigator has thoroughly scanned the entire literature relevant to the present study under the following heads:

2.1 Personality Patterns and Sociometry.
2.2 Interpreting Personality Through Drawings & Paintings.
   2.2.1 Tests of Drawings & Paintings to Interpret Personality.
   2.2.2 Studies on Drawings & Paintings to Interpret Personality.
2.3 Intelligence & Personality Patterns.
2.4 Interpreting intelligence Through Drawings & Paintings.

2.1 PERSONALITY PATTERNS AND SOCIOMETRY

The term personality used in our present day terminology to refer to man's behaviour and characteristics. The commonest way of talking about it is through vocabulary by describing a person as ambitious, aggressive, dependent etc.

Common traits are found widely distributed through the population or among certain groups and help in evaluating the behaviour of a person in general. These are the traits which individual shares with others and are, therefore, useful for evaluating the behaviour of a group of persons.

Review of Related Studies

Cowley, Moore & Flemming (1935) conducted a study on sociometric groups. They revealed that populars were more emotionally stable, cheerful and optimist than that of the other groups.

Bonney (1943) reported significant differences between fourth grade pupils with high and low sociometric status on a number of behaviour characteristics. Pupils
with high sociometric status were found to be significantly superior on both personality and social behaviour descriptions. They were characterized most frequently by their peers as being tidy, good looking, happy, friendly and cheerful. In their social relation they were described as being enthusiastic, daring, active in recitations, at ease with adults, welcomed by other class members and exhibiting leaderships in groups. Thus, their classmates as possessing socially admired qualities, which contribute to effective social interaction, perceived the pupils who were highly chosen on the sociometric test.

Khulen & Lee (1943) conducted a study, similar to Bonney's at the 6th, 9th and 12th grade level and reported similar results. Although there was some change in characteristics from one grade level to another, those with high sociometric status were characterized more frequently as being, good looking, and popular, happy, friendly, cheerful and enthusiastic. In addition they were noted to enjoy jokes and to initiate games and other activities more frequently than pupils with low sociometric status.

Laughlin (1954) correlated sociometric results using 21 classrooms at the 6th and 7th grade levels, with the behaviour descriptions of peers and found the same behaviour characteristics related to high sociometric status.

Gronlund and Anderson (1957) compared the characteristics of socially accepted, socially rejected and socially neglected pupils in a junior high school population. The socially accepted people were those who received the largest number of acceptance choices on the sociometric test; the socially rejected were those who received the largest number of rejection choices; and the socially neglected were those who received the smallest number of both acceptance and rejection choices. There were 20 pupils in each category out of a total population of 158. When these three groups were compared on the basis of responses on a "Guess Who" scale. Important differences were noted. The socially accepted pupils were characterized as possessing good looks, tidiness, friendliness, likableness, intelligence, enthusiasm, cheerfulness, initiative and sense of humour. In contrast, the socially rejected pupils were not only overlooked on these positive characteristics but they were also frequently described as possessing the opposite attributes. Thus, their peers as being not good-looking, untidy, not likeable, restless and talkative characterized them. The socially neglected pupils
tended to be over looked on the "Guess who" from, receiving relatively few mentions on either positive or negative characteristics. The few mentions they did receive indicated that they were quiet and not talkative.

Reese (1962) conducted a study on 5th grade boys and girls using a rate sociometric scale (from 1, meaning best friend, to 5 for “dislike”). The findings revealed that girls were more favourable toward those boys most accepted by other boys. Other girls do not relate girls’ acceptance by boys to girls’ acceptance.

Horowitz (1966) conducted a sociometric study on personality characteristics of 1437 male and 1505 female students in 8 high schools throughout the United States. 4 scores were obtained for each student: attractiveness to members of the same and of the opposite sex and rejection by members of the same and of the opposite sex. Correlations among these scores and factor analysis showed that popularity scores were independent of rejection scores.

Morgan (1978) conducted a study on personality characteristics of elementary school children in regular classrooms who were rejected by their peers, identified through sociometric assessment and were observed and rated on several behavioural dimensions. These data were factor analysed, yielding 5 categories of maladjusted behaviour observed. Results showed significant differences between rejected and accepted children. The behavioural manifestation were grouped into 5 categories and described in illustrative cases representing types of rejected children: Impulsive Aggression, Immaturity / Depression, Withdrawn / Distractible, Hostile / Aggressive and Psychomotor difficulties.

Goldman & others (1980) examined positive and negative sociometric status with reference to observed classroom behaviour and performance on 2 laboratory measures of social skills: decoding emotions from facial expression and referential communication. Based on data from 38 preschoolers, results indicate different patterns of correlations for liked (positive nomination) and disliked (negative nomination) scores. High liked students spent more time in positive interaction with peers and less time in solitary play or alone with an adult. High disliked students scored less well on both laboratory measures. Using median splits on the liked and disliked dimensions, results indicate that children who were rated by their peers as low-liked / High disliked were the most deviant in classroom behaviours and task
scores. The importance of obtaining both positive and negative nominations in investigations of social competence is stressed.

Laronen (1981) conducted a study on 864 3rd, 6th and 9th grade students. The students completed a sociometric scale in which they stated their selection or rejection of peers as friends or leaders and indicated the reasons for these choices, through a semantic differential. The study revealed that populars received the highest choices. They were possessing socially acceptable qualities, they were more successful in their school work than that of the other students.

Kulas (1982) conducted a study on 194 high school students to investigate the relationship between level of self-esteem and social position in the informal classroom structure. Social position was measured by questionnaire assessing social recognition and popularity. A significant relationship was found between level of self-esteem and social position. Populars received the greatest acceptance from peers because they were having socially admired qualities; they were having high levels of self-esteem. Those who were having low self-esteem experienced disturbed relations with peers.

Carlson & others (1984) conducted a study on 358 2nd and 5th graders identified 26 socially accepted, 32 rejected and 28 neglected peers by indicating whether each of 19 descriptions of social behaviour was characteristic of each peer. Rejected students were perceived by-peer as being more aggressive, disruptive, irritable, domineering dishonest and selfish than accepted and / or neglected students.Neglected students, in contrast differed from accepted students only in being less likely to brag about physical powers. Low SES of rejected students seemed to be related to the negative impact of their behaviour on peer, but low SES of neglected students did not have a negative impact. Females were perceived as behaviour more positively with peers; no interactions were found between sex and SES. Test-retest reliability of peer evaluation items was higher for 5th— than for 2nd grade students. It is suggested that structural peer instruments may be useful in evaluating the social behaviour of some unpopular children.

Maheady & Santo (1984) conducted a study on the highest and lowest psychometrically rated students (aged 8 years to 11 years) in each of 3 elementary, self-contained special education programmes were observed during free play time for
5 min each day over a 4 week period. The quantity (frequency), quality (positive or negative) and reciprocal nature of their social interactions with classroom peers were recorded. For the most part, student’s social interactions were both positive and reciprocal in nature. In addition no discernible differences were noted between the target-initiated social behaviour of higher and low status students. However, specific differences were found in peer social behaviour that was directed towards the target students. High status students were the recipients of (a) higher rates of peer initiations, (b) greater percentages of positive social initiations, and (c) fewer negative social contactor. Low-status students, however, encountered fewer peer-initiated contacts and of these, a greater percentage was negative in nature.

Kurdek & Lillie (1985) examined classmate lability, compromising skill, temperament and after school patterns of social interaction for 39 3rd graders, 26 4th graders, 22 5th graders, and 23 7th graders who were identified by a binomial probability model as popular, rejected, neglected 6 average in the classroom setting. Students were asked to nominate their best friend and children they did not like at all; they were also administered peer ratings of lability and a dimensions-of-temperament survey. Students also solved a social dilemma in a story real alone to them, which measured their compromising skill. Significant effects were obtained for each type of score. Compared to the other social status groups, popular students were the best liked, and rejected students were the least liked; neglected and average students fell between these 2 extremes. Popular students had higher compromising scores than either rejected or average students and neglected students had higher scores than rejected students. Compared to average students, rejected students had higher attention and rhythm city temperament scores. Popular and average students had more neighbourhood friends than either rejected or average students, and neglected students had younger neighbourhood friends than did average students.

Ather & Wheeler (1985) administered sociometric and loneliness questionnaires to 200 3rd – 6th grade children to assess feelings of loneliness in 2 subgroups of unpopular students – those who were psychometrically rejected Vs those who were psychometrically neglected. Data on popular, average, and controversial students were also collected one-fifth of the students were from low SES families one-third were from middle SES families and the rest were from upper middle or upper
SES families. Results indicate that the rejected students were the loneliest group and that this group differed significantly from other status groups. Neglected students did not differ from their higher status peers. Overall, findings provide evidence of the utility of the distinction between neglected vs rejected status and provide support for the conclusions that rejected children are more at risk than are other status groups.

Dubow (1988) studied the relation between aggression and peer status in 238 3rd - 5th graders. Results indicate low-to-moderate correlations between peer-nominated aggression and global indices of social acceptance. Aggressive students largely comprised the rejected and average social-status groups but not the popular or neglected groups. According to both peers and teachers, aggressive/rejected students showed academic and social-skill deficits, whereas aggressive students of average peer status exhibited adequate adjustment similar to that of non-aggressive/average-status students. It is suggested that knowledge of an aggressive child’s peer status might be useful in enhancing the predictability of adult adjustment.

Boivin & Begin (1989) evaluated the relations among peer status, self- and other perceptions of social competence among 222 French-Canadian children (aged 9-11 years). Self-esteem, self-perception in different domains (academic, social acceptance, athletic, physical appearance, and behaviour/ conduct) and teacher’s assessments were assessed along with peer status. A cluster analysis revealed that rejected students could be assigned to 1 of 2 groups with respect to self-perceptions, the 1st displaying high self-perceptions and the 2nd showing low self-perceptions. In contrast popular students showed generally positive self-perceptions. No difference was found between the self-perception scores of neglected and average students, whereas controversial students displayed lower self-esteem and perceived competence on the academic and behaviour/conduct dimensions.

Rubin (1989) explored that rejected children are more aggressive; however the data concerning the behaviour characteristic of neglected children are equivocal. Rejected and neglected children were lacking in socially admirable qualities.

French (1990) identified 46 rejected 8-10 years old girls and 20 populars 8-10 years old girls using rating sociometric and peer and teacher behaviour rating measures (including the self-Control Rating Scale and the School Behaviour Checklist). Two large clusters emerged from the analysis of the rejected girls, with
one of these being more deviant than the other. The more deviant group was characterized by withdrawal anxiety and low academic functioning. In this study aggression scores did not differentiate the 2 clusters. Thus, it does not appear that the use of a combination of aggression and rejection criteria identifies the most deviant group of girls.

Frentz & others (1991) investigated social competence and achievement differences among 331 popular, controversial, neglected or rejected adolescents in Grades 6-10 using a sociometric classification procedure described by J.D. Coie et al. comparisons were made from teachers’ and self-report judgements of social skills, behaviour problems, and academic achievement. Measures included the Behaviour Problem Checklist and the Self-Control Rating Scale. Significant differences and trends in the data indicated that popular students displayed more socially skilled behaviours and fewer behaviour problems than rejected students. No differences in teacher-rated social skills, problem behaviours, or academic achievement were found between popular, controversial and neglected groups.

Bryant (1992) examined conflict resolution (CFR) strategies (e.g., anger retaliation, calm discussion) in relation to the social status of 165 children in the 1st study (Grades 4-6) and 67 children in the 2nd study (Grades 4 and 6). Subjects were peer rated for sociometric status and for CFR style; subjects completed a 22-item questionnaire measuring perception of their pro-social persuasive skills in conflict and non-conflict situations. Results from the 1st study indicate that children who were socially preferred were identified by peers as more likely to use a calm approach to resolve conflicts and less likely to use either an anger retaliation approach or an avoidance approach. Rejected and controversial children were viewed as using the anger retaliation strategy more than did popular, neglected, and average children. Study 2 provided initial support for the validity of children’s ratings of their peers’ salient use of particular forms of CFR strategies.

Bullock (1992) reviews studies concerning the implications for children who grow up without friends. It is concluded that a significant percentage of children are rejected or neglected during childhood. Rejected children show many more in appropriate behaviours than other children do and are also more aggressive, argumentative, and likely to engage in disruptive peer interactions. Many adolescents
who drop out of school experience poor peer adjustment in their earlier years of school. A lack of friends also contributes to loneliness, low self-esteem, and inability to develop social skills. Teachers and parents are encouraged to communicate to give parents an understanding of their child’s development and progress. Teachers can discuss their observations of the child and share what they are doing in the classroom that might also be reinforced at home.

Crick & Ladd (1993) conducted a study on 338 3rd and 5th graders who were completed a sociometric questionnaire. Three instruments were designed to assess their feelings of loneliness, social anxiety, social avoidance, and their attributions for social outcomes. Results show that children’s feelings and attributions varied as a function of peer status, gender and grade. For example compared with peers, rejected children reported higher levels of loneliness and were more likely to attribute relationship failures to external causes. Children’s feelings were also significantly related to their attributions about social events. Popular, average and controversial status children who were socially distressed exhibited a non-self-serving attributional style, whereas distressed rejected children exhibited a self-serving attributional pattern. Neglected children who were distressed exhibited elements of both of these attributional styles.

Volling & others (1993) examined sociometric status differences in children’s social competence for 122 elementary school-aged children (Grades 1-4) using teacher ratings and peer nominations. Rejected students evinced significantly fewer competences (e.g., peer group entry, responses to provocation) than popular, average or neglected students but differed from controversial students only with respect to their inability to meet established social norms for cooperative behaviour and teachers’ expectations for classroom behaviour. Rejected aggressive students were deficient in all aspects of social competence assessed and were most disliked by their peers. Rejected withdrawn students were seen by peers as most unhappy, whereas rejected undifferentiated students (i.e., rejected children who were neither highly aggressive nor highly withdrawn) had problems with social withdrawal, disruptive behaviour and socially appropriate behaviour.

Pellegrini (1994) observed Chase and Rough Play (RP) in 22 popular, 19 average 13 rejected white adolescent boys (mean age for all groups 13 years) while
they were on the playground during recess. Sociometrically defined average and rejected students spent a significant portion of their time in Rough Play when compared with popular students. Rough play was related to aggression and perspective-taking status for rejected students and was related to dominance status for all students. Rejected and average students choose to engage in Rough Play with less dominant children.

Vandell, & Hembree (1994) examined peer social status, friendships and adjustment for 326 3rd grade children. Although status and friendship were related, they were not redundant. Some rejected and neglected children had friends, and some popular and average children did not have friends. Both peer social status and friendship were found to contribute uniquely to children's socio-emotional adjustment, academic competence and self-concept.

Vitaro & others (1994) compared the predictive accuracy of teacher based behavioural categories (i.e. teacher assessment of aggressiveness and hyper activity) and peer based sociometric categories (i.e. peer acceptance and rejection) on a sample of 132 Kindergarten boys. Accuracy of prediction was compared on outcome such as behaviour problems (assessed by teachers and peers), peer rejection, self-reported delinquency, self-perceptions, and academic performance in grades 3 and 4. The results revealed that behavioural categories differed on homotypic and several heterotypic outcome measures, whereas sociometric categories differed only on homotypic outcomes. Overall behavioural categories were better predictors of teacher-rated and self-rated outcomes than sociometric categories.

Williams & Gilmour (1994) examined the significance of sociometry in providing a reliable and systematic method for providing investigating the impact of peer relationships on the development of psychological adjustment. Two methods for defining sociometric status was described, i.e., peer nomination and peer rating. The reliability and stability of sociometric status were also discussed. A developmental perspective on sociometric status was described and categorization issues related to race and gender were discussed. Substantive evidence was provided for a causal and correlational relationship between peer rejection and the onset of antisocial behaviour. Children who were withdrawn and rejected by peers may also be at risk of later psychopathology.
Duncan & Cohen (1995) examined the liking of peers in relation to sociometric status and sex of both the evaluators and the children evaluated. 447 children in Grades 1-6 were categorized as Popular, Rejected, Neglected, Controversial or Average, based on sociometric data, and ratings of peer liking for all classroom peers were analysed. Popular children received the most positive ratings while Rejected children received the lowest. Liking ratings given were influenced by sex and sociometric status of both the evaluator and the child evaluated. Generally, same-sex ratings were higher than cross-sex ratings, and Popular children gave higher ratings than children of other categories. Boys rated Neglected girls higher than they rated Rejected girls, and girls rated Rejected boys higher than they rated Neglected boys. Controversial status boys generally received lower ratings from Rejected status boys and girls than they did from children in other status group.

Young & Bradley (1998) conducted a study on 243 grade 7 and 8 students identified by self-report measures as stable introverts, stable extroverts, unstable introverts, and unstable extroverts. Results confirm that unstable introverts regarded themselves as less happy and popular than other subjects. They saw themselves as less academically self-efficacious than extroverts and emotionally stable, introverted adolescents. Introverts and unstable adolescents regarded themselves as less socially self-efficacious than extroverts or stable children. The results in general suggest that it is not simply introversion that determines negative social consequences, but that emotional stability or neuroticism must also be considered and that unstable introverts may be more likely than stable introverts to suffer from maladjustment. The findings may help psychologists, teachers, and counselors determine which socially withdrawn children benefit from intervention.

Eronen & Nurmi (2001) conducted a cross longitudinal study on 154 students to investigate peer relationships and social behaviours and whether social reaction styles and loneliness serve as antecedents and consequences of sociometric status among young adults. The results of the study revealed that social reaction styles, feelings of loneliness, and satisfaction with the group atmosphere prospectively predicted sociometric status. A high level of approach orientation predicted popularity. Sociometric status also predicted changes in individual’s reaction style and feelings of loneliness. Finally high sociometric status was related to pro-social
behaviours, whereas low sociometric status was associated with behavioural deficiencies.

Demir & Tarhan (2001) conducted a study on 370 secondary school adolescents (186 girls and 184 boys) to investigate into the relationships of sociometric status, gender and academic achievement to loneliness level. Data on loneliness and social dissatisfaction levels of students were collected. Results revealed that sociometric status was significantly related to loneliness and social dissatisfaction as a function of peer relations. Members of the rejected group reported significantly higher levels of loneliness and social dissatisfaction than did the members of controversial, popular and neglected groups. The controversial group was also significantly different from the popular group in loneliness level. No significant gender differences were found. Results also revealed a significant negative relationship between achievement scores and loneliness, indicating that as the level of loneliness increased, academic achievement decreased.

Hubbard (2001) conducted a study to investigate sociometric status, aggression and gender differences in children's expression of anger, happiness, and sadness. Participants were 111 2nd grade African American boys and girls (approximately 8 years old), half rejected and half average sociometric status, and half aggressive and half non-aggressive as assessed by their peers. Children interacted with a confederate in two standardized competitive game paradigms. Participants' expression of anger, happiness and sadness were observationally coded across facial, verbal intonation, and nonverbal modalities. Rejected children expressed more facial and verbal anger than average status children. Rejected children also expressed more nonverbal happiness than average children, but only during turns of the game that were favourable to the participant. Finally, boys expressed more facial, verbal, and nonverbal anger than girls.

LaFontana & Cillessen (2002) examined the children's perceptions of popular and unpopular peers in 2 studies. Study 1 examined the degree to which 4th - 8th grade boys and girls (N=408) nominated the same peers for multiple criteria. Children viewed liked others as pro-social and disliked others as antisocial but associated perceived popularity with both pro-social and antisocial behaviour. In study 2, a subset of the children from study 1 (N=92) described what makes boys and girls
popular or unpopular. Children described popular peers as attractive with frequent peer interactions and unpopular peers as unattractive, deviant, incompetent, and socially isolated. In both studies, children’s perceptions varied as a function of the gender, age, and ethnicity of the participants.

Sebanc & others (2003) conducted a study on 91 preschool children in the same sex quartets to explore peer preference by looking separately at the number of likes and dislikes a child received in sociometric interviews. Multivariate analysis revealed that sex interacted with rank to explain peer acceptance but not peer rejection. High ranked boys were accepted more by peers than low ranked boys, while low ranked girls were accepted more than high ranked girls. Further analysis revealed that girls, but not boys, accepted the low ranked girls.

The studies mentioned above indicate that group members perceive students with high sociometric status as friendly, cheerful and pleasant as also possessing socially desirable aggressive tenderness, while the students with low sociometric status are either rejected due to their unpleasant and gloomy appearance. Hence, sociometric results tend to provide useful clues regarding the adjustment of students within a class group.

Very few studies have been conducted in India regarding the personality characteristics of sociometric groups. The present investigator has tried to find out as many studies as possible.

Chaudhry (1943) has reported that talkativeness and bad habits are the reasons for rejection.

Satyaprakash (1968) conducted a study on 22 Populare & 22 Rejecteess by giving Saxena’s Personality Inventory & individual study and came to the conclusion that popular students were having good personality and high intelligence. They were more adjustable in school and neighbourhood. So far as adjustment at home was concerned both were equal. Populare were self-confident, responsible, regular and cooperative.

Sharma (1970) conducted a study on 35 personality characteristics of populare, isolated and rejected students and arrived at the conclusions that the personality characteristics of unaccepted pupil were quite similar whereas those of accepted and unaccepted students were quite dissimilar. It was also noticed that personality trait
scores decrease consistently as the degree of acceptance decreased. The scores of populars were generally positive which indicated that they possessed positive characteristics. The scores of isolated were generally negative and they possessed negative characteristics.

Gaffar (1971) has also proved that socially accepted students were more active, creative, good spokesmen helpful.

Arora (1975) conducted a sociometric study of populars and rejectees in relation to their neurotic components and came to the conclusion that popularity and rejection has no relationship with neurotic components. Good behaviour and seriousness towards the work are the traits to become populars whereas dependency and fickle mindedness are the characteristics of rejectees.

Pathak (1975) tested the hypothesis that socially accepted pupils have better adjustment patterns than socially unaccepted ones. All sections of class IX in 10 schools were considered for the study, and 260 students were selected on the basis of a sociometric test. Students included 80 populars, 80 neglectees, 20 isolates, and 80 rejectees, who were administered the Socio-School-Adjustment Inventory. Findings show that populars were superior to neglectees, isolates and rejectees in socio-school adjustment; however, isolates and rejectees were comparable in their socio-school adjustment.

Malik (1984) conducted a study on 324 girls of grades - IX & X higher secondary school personality differentials of Adolescent Girls across sociometric status. She used Mathur's (1973) Free Expression Drawings & Cattels HSPQ (1963). She observed that populars were more outgoing, intelligent, emotionally stable, assertive, happy go lucky, venturesome, doubting and tense. In comparison to populars the rejectees as assertive as populars, less intelligent, more doubting, equally tense and socially precise. On the factor of intelligence the populars were superior to the rest of the sociometric groups. Neglectees were found to be generally low on each variable as compared to the other sociometric groups. The isolates were reserved, more intelligent, emotionally stable, phlegmatic, shy tough minded, doubting, placid, obedient, sober, conscientious, group dependent, indisciplined and relaxed.

Madosh (1989) conducted a study on 300 subjects from 3 subculture settings to compare the personality profiles of sociometric groups both on intra and
intercultural levels. The results have shown that there is a considerable cultural element influencing sociometric choices. Popularity estimates are found to be related to the cultural social meanings of the personality traits and expectations of the matured, experienced judges belonging to different social groups. Similarly isolation assessment correlated high with both indices of popular judgement and empirical results. An intra cultural comparison shows both compatibility and cohesiveness of the subgroups but inter cultural comparison fails to find even gross features to account for a profile similarity among various sociometric categories.

2.2. INTERPRETING PERSONALITY THROUGH DRAWINGS & PAINTINGS

2.2.1 Tests of Drawings & Paintings to Interpret Personality

Different authors have given different tests of drawings & paintings to interpret personality as "Art-Test" (1938), Wachner's Test of spontaneous drawings & paintings (1946), Karen Machover's Drawing of the Human Figure (1946), Buck's House-Tree-Person Test (1949), Bender-Gestalt's, Kinget's Drawing Completion Test (1952), "Murayama's Mind Image Drawing Test" (2002). Among these tests only in Murayama's mind image drawing test, the unstructured situation has been provided otherwise rest of the tests evoke responses from structured situations.

2.2.2 Studies on Drawings & Paintings to Interpret Personality

Some of the studies have been conducted to interpret the responses on the personality tests to predict personality differences.

Kerr (1937) studied the personality of children by asking them to draw houses. Her hypothesis was that children with different personality characteristics and makeup, were supposed to draw houses in a way of their own.

Alschular and Hallwick (1947, 1969) worked on children's painting to predict their personality. They observed that there is a universal tendency for all sorts of individuals to express similar feelings, reactions and problems in like or at least comparable fashion. Their responses were in many respects so basically similar as to suggest that their origin, to some extent at least, lay deep in the history of human race and in the constitution of human organism. Some of the major findings were:
(a) That 2,3,4 year old children tend to express the same feelings through creative media that they express in overt behaviour. However some children conceal their true feelings in their overt behaviour but express them in their paintings. In such cases, paintings and overt behaviour are likely to reflect contrasting rather than similar drives.

(b) During these early years, some children's paintings tend frequently, if not persistently, to be copies of external stimuli rather than reflections of self.

Naumburg (1947) studied the "free" art expression of behaviour of problem children and adolescents as a means of diagnosis and therapy. He found that it was possible to diagnose the problems of behaviour of problem children and adolescents that free art expression could be used as a means of therapy to overcome the problems.

Samson (1952) also studied children's drawings with a view to find out if it could be adopted as a technique of investigation and therapy. She also found drawings to be a useful medium in investigating and therapy with children.

Hare & Hare (1956) found that a child's drawings of the group in which he was participating were related to his social position in the group.

Dhondhiyal (1958, 1964) in his study "Art as a Projective Technique" had classified the paintings into scoring categories like content, element, ego-denoters, form, movements, colours, design, unity etc. The systematically defined them and came to generalizations about their predictive capacities.

Pathak (1962) worked on the Pathak's Draw-a-man scale to find out sex differences between boys and girls. She wanted to know whether mental testing does indicate towards classification of boys & girls separately on the basis of test scores and whether it helps in the construction of batteries of general ability for mixed population.

Dennis (1966) studied children's drawings to know about their group values. He came to the conclusion that drawings can be used to measure some of the social changes in attitudes and values which occur in course of modernization, acculturation and educational and economic developments.

Mehrotra (1969) tried to establish the useability of projective tests for assessment of intelligence, for the purpose he used 4 tests, 2 intelligence test batteries and 2 projective tests. He found that projective tests prove more successful and useful
in the satisfactory estimates of the intellectual level in conjunction with the effective and can active aspects of personality.

Mathur (1971) studied children's paintings as indicators of personality patterns. The study was based on intelligence criteria, having bright, average and below average students as the subjects. He collected 10 paintings from each subject and correlated the results with T.A.T., to establish the validity.

Malik (1978) conducted a study on 4 sociometric groups, viz., populars, neglectees, rejectees and isolates administered free-expression drawings and painting test developed by Mathur (1973) to assess the personality of these groups. Her scheme was based on four personality criteria, namely, emotion, imagination, intellect and activity.

Carothers & Gardner (1979) examined the drawings of 11 boys and 11 girls in each of Grades 1, 4 and 6. The investigator tested for their sensitivity to the dimensions of syntactic repleteness (e.g., line variation) and expression (i.e., the feelings conveyed by a work). Results show that 1st graders displayed little capacity to produce or perceive aesthetic characteristics but 4th graders displayed significantly greater capacities to perceive these characteristics in drawings, and by the 6th grade, students demonstrated capacities to exhibit these aesthetic characteristics in their own drawings.

Filipovitch & others (1981) used 295 drawings from 212 4th, 7th and 12th graders to study their perceptions of their home environment. Students were asked to "draw a picture of where you live". Drawings were evaluated for the variety and form of the elements used, the richness and structure and the type of drawing that was produced (map, interior drawing, exterior drawing). The 4th graders tended to produce simplistic, stereotyped drawing of homes the revolved around the home and yard space. The 7th graders draw more maps, showed more paths and used a greater variety of elements than the other 2 groups. Their drawings showed an explorer’s word, one where the home is often less important than other places. The 12th graders drawings returned to the home, but the houses were now individualized and personalized, showing a concern for “one’s own space.”

Mc Niff (1982) investigated the ways in which the subject matter of children's art reflects sex differences in interests, interceptive thought, and symbolic
organization of the world. Another sought to establish that artistic activity is a viable medium through which information on the non-discursive aspects of children’s thought can be obtained. Over 1,800 drawings, done by 26 children (aged 6-8 years), were collected. The content of the drawings was examined, and the relation of these drawings to ancient ritualistic practices was explored. While girls’ art reflected interest in design, people, holidays, animal and plant life, and outdoor environment, boys art reflected interest in conflict/power, sea animals, exotic places and sports. The art did not present stereotypic images of sex roles nor could the contrasts be specifically attributed to genetic, social or psychological differences between the sexes. It is concluded that girls and boys have different expressive interests and needs that are not fully incorporated into their educational environment and that affect all areas of school adjustment.

Hodgson & Rundall (1983) conducted a study on 11-12 year old males to investigate the relationship between personality, drawing ability, and the content of drawings. Students were first asked to complete the Junior Eysenck Personality Questionnaire and then to draw a person and finally to draw anything at all. Three independent raters assessed the quality and bizarre content of the “person” drawings, both drawings were then considered together, and the judges rated the extent to which they were aggressive, imaginative, comic and sexually daring. The main finding was a significant correlation between psychoticism and bizarre contents.

Engelhart (1985) studied drawings of 9-12 year old children with the House-Tree-Person Test of J. Buck (1948). It is concluded that (1) the drawing can discriminate between normal school children and those with affective behaviour problems, and (2) drawings reveal permanent personality traits.

Cambier (1985) insists on impartial methodological precision in the analysis of children’s art, and provides 3 examples of systematic approaches. Drawing reflects completely the state of an individual’s dynamic psyche. In collaboration with P.A. Osterrieth, the author developed a method of drawing analysis using 62 items (e.g., the general characteristics of the personality, the representation of the head, spatial organization).

Dubois (1985) discussed the role of children’s drawings in the family, school, and psychiatric consultations; and point out the dangers of misinterpreting children’s
drawings. Art can be useful in psychoanalysis since it is an expression of feelings and of the unconscious. In other words, it is a form of communication. Art reveals to the psychotherapist the individual’s experiences.

Ramsey (1989) examined verbal response of 264 1st-2nd and 3rd grade predominantly while children concerning why they preferred a selected art style in picture illustration. Children who preferred a cartoon style were influenced by the style of illustration, mood and colours. Children who preferred the photographic style were influenced by the realism and color of the illustrations. Preference for realism increased with grade level.

Reid & Sheffield (1990) investigated the drawing abilities in 40 normal children and 12 children (aged 4-10 years) with myelomeningocele to validate a neo-structural analysis of drawing skills in normal children and to apply this conceptual approach to the area of drawing performance in a group of children with suspected hand dysfunction. His findings supported the following hypotheses:

1) Drawings of normal students and those with the disease would reflect an increase in structural complexity with an associated increase in development age, and

2) Drawings produced by the handicapped students would be a qualitatively inferior to those of normal students.

Mumcuoglu (1991) conducted a study on 144 Israeli children to study their personality trait of emotion. The drawings of these children were analyzed to study the emotional reaction to head lice. The color of choice was significant: black was used by 43% of subjects, indicating that lice are associated with anxiety and fear. Pictures of lice on clothes or other body parts, which 30% of subjects drew, suggest that lice and dirt are connected to self-image. These subjects may feel responsible for the infestation. Parents, teachers and nurses are discouraged from making lice-infested children feel guilty about their condition, thus causing psychological injury. The findings, reveals that through a particular drawing fear and anxiety of the children can be assessed.

Boersma & others (1991) conducted a case study on a 10-year-old girl who was suffering from wind phobia. Her unconscious was explored through the use of drawings. The findings of this study suggest that drawing may be used as a trance
technique in order to investigate whether a child is ever afraid of the wind or school, phobia and whether family breakup was ever a concern.

Riordan & Verdel (1991) assessed that asking them to draw the pictures could identify the children having distorted personalities. They held that the evidences of sexual abuse may be seen in the routine art products of children, such as their focus on the genital area, and the way they draw other body parts such as eyes, nose, mouth and neck. The artwork and verbal description should be integrated to get a complete picture of sexually abused child.

Rabinowitz (1992) compared the Kinetic Family Drawings of peer-accepted and peer-rejected 5th grade boys and girls. The results revealed that 30 peer-accepted girls drew taller mother and father figures than the rejected girls; the peer-accepted girls drew taller mother figures.

Hagood (1992) held that projective techniques especially free-expression drawing may be an effective means to explore the unconscious of the child. His distorted personality and pent up feelings can easily be depicted through the use of drawings and paintings.

Spigelman & others (1992) administered the Draw-A-Family Test to 54 Swedish children (aged 10-12 years) from divorce families and 54 from intact families. The findings revealed that drawings may be used as the best means to differentiate between children from divorce families and children from no divorce families.

Mc Neish (1993) conducted a study on 81 regular education students and 81 students in special educational placements for students with serious emotional disturbance. All students completed drawings of a man, a woman, and self, which were scored using the Draw-A-Person: Screening Procedure for Emotional Disturbance. The mean T score earned by students in the emotional disturbance group was significant higher than that earned by the non-disturbed sample. Results indicate that the special education group produced more signs associated with emotional disturbance than did the non-disturbed group.

Feyh & Holmes (1994) administered the Draw-A-Person Test to 40 conduct disordered and 40 non-conduct disordered children and adolescents. There were 20 boys and 20 girls (age 10-16 years) in each group two dependent judges rated. The
drawings for presence or absence of indicators of aggressiveness that should accompany a conduct disorder but no significant differences were found between groups or sexes.

Bombi & Pinto (1994) explored the use of indices of cohesion and distancing in drawings made by 20 boys and 20 girls (aged 6-11 years) from grade 1-5 showing themselves with a friend. The main hypothesis was that students at each age level would introduce in their drawings pictorial indices of cohesion, as these were necessary and sufficient to show that a relationship exists, distancing indices would be added as options. Drawings were scored on 2 scales, each composed of 6 sub-scales, measuring either cohesive elements or distancing elements. Analyses for cohesion and distancing yielded main effects of the different sub-scales and of sex (boys obtained higher distancing scores than girls). Factors pertaining to spatial organization and figure interaction emerged both for cohesion and distancing. Variance analysis confirmed the prevalence of cohesion over distancing.

Jolley & Thomas (1994) examined the development of sensitivity to positive and negative moods metaphorically expressed through the formal properties of paintings. Eighty students (5, 7, 10 and 17 years) were tested for mood label comprehension and then were asked to label previously rated abstract work as happy, sad, hungry or calm. Sensitivity to the expression of mood developed at different rates for different moods. Happiness was easiest to detect, followed by calm and angry, and sadness was the most difficult to detect. Seven (7 years) olds recognized the appropriate mood for 3 of the 4 moods. Significantly more positive than negative feelings were read into the mood equivocal works across all ages. Students' justifications for their choices on all the works confirmed that children can associate formal properties of paintings with moods.

McGhee & Duzuban (1994) conducted a study on 51 Mexican children (aged 3 and 4 years) who were asked to express preference for 9 abstract and 9 realistic paintings on 20 occasions, 5 weeks apart. More students preferred realistic paintings to abstract paintings, and students' choices remained stable over time.

Burton, J.M. (1994) explored why art is important in the lives of children and adolescents and why culture would be better served by fully integrating the arts into school curricula. The current approach to art in the school is neglectful and focuses on
art history and appreciation rather than students' study time. This article argues for more hands on art classes and the need for a more interdisciplinary curriculum.

Porteous (1996) explored, that drawing could be used as an effective medium to screen maladjusted children. Silver (1996) administered Silver Drawing Test (SDT) on 33 females (aged 12-15 years) to test whether or not males of superior to females in spatial ability. The findings revealed no significant differences in spatial ability between males and females, although females tended to be stronger in ability to represent depth.

Milijkovitch & Miljkovitch (1998) conducted a study on 26 subjects, aged 21-63, suffering from depression, and 26 control individuals who were asked to make a “funny” and a “sad” drawing which were scored on 22 variables describing their formal aspects and contents. Results show that drawings of individuals with depression differ from those of control participants on a wide range of variables, sometimes very significantly. Prediction of participants’ groups based on 8 variables obtained by discriminant analysis was correct in 98% of cases. Results support the usefulness of asking for the 2 kinds of drawings and suggest that depression is better detected through formal aspects of drawings than through their contents.

Milne & Greenway (1999) studied whether males and females differed in their use of color in drawing and whether the use of colour varied according to what was being drawn and age. Participants were 61 4-14 year old mental health outpatients (33 males and 28 females) who were seeing child psychologists. Age groups were 1) less than 6.56 years, 2) 6.56-10.63 years, and 3) older than 10.63 years. Children were asked to do 5 drawings (their own choice, themselves and house, tree, person) with crayons or coloured pencils as part of a standard assessment. Results showed that older males used color less frequently than younger males, and that females tended to use color regardless of age. For males in the middle age group, the use of color seemed to depend on what was being drawn. Assuming on at use of color indicates emotional response, the results suggest that as males approach puberty, they tend to inhibit their emotion responses.

Dicarlo & others (2000) conducted a study on 82 street children (aged 5-17 years) to examine the content of their drawings. They were instructed draw a picture of an ideal person engaged in an activity and to write comments explaining the person’s
activities. The drawings of many children showed the presence of emotional indicators according to Koppitz's criteria. Emotional indicators were significantly related to a number of the scores according to Stiles procedures. Sample drawings and their scores were provided.

Stein (2000) discussed the use of family drawings as a means of assessing children's development. Several examples of the Kinetic Family Drawing (KFD) test used with 5-17 year olds in pediatric practice are presented to illustrate the applicability of the KFD in behaviour, development and consultations, and in medical education.

Jolley & Vulic-Prtoric (2000) examined the claim that topics in children's drawings convey the children's emotional attitude towards those topics. The influence of an emotional topic (neutral man, friendly, and enemy soldier) and trauma group (child with father or father killed in war) was examined on the size of the topics and their placement relative to a self-portrait drawing. 60 Croatian children (aged 7-10 years old) drew a man, followed on a separate page by either (1) a croation soldier, (2) an enemy soldier or (3) a second drawing of a man. The child's self-portrait drawing was placed on each page. There were no significant main or interaction effects on size or placement of topic. Conclusions indicate there are unlikely to be reliable features of drawings that portray the child's emotional attitude towards the topic drawn.

Wesson & Salmon (2001) conducted a study on 60 children (age 8 year and 5 year) to examine the effectiveness of drawing and reenactment. The children under study were interviewed about lines when they have felt happy, sad and scared in one of 3 interview conditions: (1) Drawing in which they were asked to draw and tell (2) Re-enactment, in which they were asked to re-enact and tell (3) verbal, in which they were simply asked to tell. The results revealed that drawing and re-enactment elicited a greater number of items of descriptive information than did the verbal interview.

Lijima & others (2001) analyzed the children's free-expression drawings and found that boys tend to draw mobile objects and mechanical objects with dark or cold colors and often use bird's-eye-view composition when they draw pictures, whereas girls like to draw human motifs, flowers and butterflies with light and warm colors and lend to arrange motifs in a row on the ground.
Murayama (2002) conducted a study on 109 female art students to understand the unconscious structure of their personality. For this, the investigator introduced a new method named Mind Image Drawing. The students were asked to depict images in their mind freely and then to describe their own pictures using 3 epithets. Then the students added, “I am” to these words and read them aloud. The investigator contended that through these techniques, the students not only projected the unconscious side of their mind in the drawings but also could obtain an insight into their mind on cognitive level.

2.3 INTELLIGENCE AND PERSONALITY PATTERNS

According to Singh (1971) intelligent students were found more creative in activity than low intelligent students and they were emotionally more open than the low intelligent students and this difference was significant at 0.05 levels. The correlation was found between the results of the findings of Singh & Burman, Holling Worth, and Porter & Bhatnagar.

On the contrary Kattel (1934) has given very impressive results that there is very little relationship between intelligence and personality patterns such as emotion.

Hence so many studies have been done to find out the correlation between intelligence & social acceptance and it has been found that the relationship between intelligence and social acceptance is very low.

The following correlation results were found out according to the different studies:

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<td>Laughlin</td>
<td>VII</td>
<td>525</td>
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Furfey (1927) concluded, besides intelligence, other personality factors also influence in the selection of friends.
Johsons & Crike (1950) have concluded that Isolates and Rejectees have low intelligence than populars.

According to Richard Forester, Shukla & Higgiborthem (1951) in girls, intelligence has played significant role in the selection of friends but in boys it was not found so.

Galeder & Coder (1957) have reported that socially accepted students are high in their intelligence. In the primary classes on Binnet Intelligence Scale 30 students were of I.Q. 150. Eighty percent (80%) students obtained high scores on the sociometric status and 20% students were of below average.

Singh (1971) – found intelligent students to be more creative in activity than low intelligent students and they were emotionally more open than the low intelligent students and this difference was significant at 0.05 level of confidence.

Modi (1976) conducted a study on stars, Rejectees, Isolates and their personality patterns, came to the conclusion that populars are more emotionally open than seclusive. Intellectually they were more practical than speculative. But in imagination and activity populars and isolates were found equal. The difference on intelligence between populars and rejectees was significant at 0.01 levels but no difference was found between Isolates and Rejectees.

Kury & Bauerle (1977) conducted a study on 236 males and 255 females 7th and 9th graders in rural schools in West Germany. The students had to fill out the Freeberg Personality Inventory, and a sociometric questionnaire. They nominated 3 peers to represent positive traits and 3 for negative ones. They had also to write a short essay to describe a liked and disliked student according to 3 mental pictures. Disliked male students viewed themselves as more feminine, withdraw, less optimistic and less self-confident. Disliked females were more introverted and slower in forming friendships. Significant sex differences were found in physical attractiveness, intelligence and egoism.

Pandey (1977) comprised the adjustment problems of 100 bright and hundred average boys studying in intermediate colleges of Moradabad, Uttar Pradesh (India). The groupings were made by administering the verbal and non-verbal intelligence tests of R.K. Ojha and P.F. Vernon and K. Ray Chowdhry, H.M. Bell’s Adjustment Inventory (student form) was administered by the normative survey method. Results
indicate that the intellectually superior boys had more problems in the area of social adjustment than the average boys.

Malik (1978) conducted a study on Populars, Rejectees, Neglectees and Isolates girl students to measure their personality patterns as depicted through "Free-Expression" drawings and paintings, came to the conclusion that populars have high scores on each personality variable. On the dimension of intelligence they secured higher score than that of neglectees, rejectees and isolates. Neglectees and Isolates were equal in the scale and rejectees have been found with low intelligence.

Jariel & Sharma (1980) examined the effects and interactions of intelligence, personality on fluency, flexibility, originality and total creativity of 55 urban high school students. Students were administered the Parsi Test of creativity, Mandsley Personality Inventory and Group Mental Ability Test and were divided into high and low intelligence groups. Results show a significant effect of intelligence on the fluency, originality, and total creativity of the students.

Khan & Gupta (1982) conducted a study on 63 male and 37 female college students who were administered intelligence and a creative personality test. Results indicate that the correlation between intelligence and creative personality was significant for females but not for males or for the sample as a whole.

Vasilinyeva & Zemtosova (1982) conducted a study on 34 10th graders who were divided into 4 groups on the basis of their intellectual abilities and administered a problem completion task. Results show a positive relationship between students’ intellectual ability and the use of analysis in compiling problems students with a low stimulus productive level of intellectual activity showed a lack of realistic analysis, a lack of realistic control over their activity and disorientation in a new situation.

Pstruzinova (1983) contends that the structure of intellectual ability is important for success in school, since some students with a higher level of ability may do poorly if they do not have the right type of intellectual ability. It is suggested that the problems in the teaching process be approached by considering specifically the structure of the intellectual ability needed to achieve in a particular area.

Czerwinska (1984) conducted a study on 200 7th graders who were administered a sociometric questionnaire of peer popularity and a guess who test of peer assessment, and their teachers completed a questionnaire assessing students’
functioning in the school setting. Average ratings of all students over the previous 2 years were examined to establish students’ academic successful. Findings show that teacher and peer attitudes toward students with higher mental abilities differed in accordance with the kind of mental ability. The most popular and well-liked students were extremely intelligent. Students rated as creative but less intelligent were the least popular and the least liked. This group also had the lowest teacher ratings of functioning in the school setting.

Testu (1985) investigated the relationship between cognitive style (field dependence independence) and intelligence and the effects of cognitive style on performance of verbal and nonverbal tasks among 80 school children (42 boys, 38 girls; mean age 11 years). Students IQs and cognitive style were assessed via a group intelligence test and the Group Embedded Figure Test, respectively. Students’ performance was assessed on 4 different tasks: (1) a visual-spatial exercise (2) a multiplication exercise, (3) a mathematics problem completion exercise, and (4) a verb conjugation exercise. Results demonstrate a strong positive correlation between field independence scores and IQs. Results suggest that there is an intervention between intelligence and cognitive style and that this interaction influences performance.

Malhotra & Hasija (1990) studied the effect of intelligence and psychological stress on 120 male and 120 female undergraduates’ performance on 2 set problem-solving tasks. The high intelligent group performed significantly better than the other 2 groups, and the above average group performed better than the average intelligence group. Verbally induced stress adversely affected problem solving. Males performed better than females, contrary to expectations, the interaction between intelligence and stress was not significant.

Qureshi & Qureshi (1990) conducted a study on 240 adolescent girls (aged 13-17 years) and found a strong relationship between intelligence and creativity as a whole and 3 components of creativity: fluency, flexibility, and originality.

Azad (1991) examined the projective performance patterns of 24 boys (aged 12-14 years) belonging to 3 different intellectual levels, using the Indian adaptation of the Lowenfeld Mosaic Test. Subjects were matched in groups of 8 on the basis of scores on an intelligence test and the socio-economic status scale. Results revealed
that subjects of different intellectual levels had different preferences and dislikings for colors, geometrical shapes and for the location on the tray. Intellectual level and quality of work were positively correlated.

Chaudhari & Ray (1992) compared the self-concept, locus of control, and adjustment of intellectually superior (ISP) students with those of intellectually normal (INR) students. 48ISP and 57INR students were selected from the 7th, 8th and 9th standards and were administered measurement scales: Results indicate that the ability of both groups to adjust appears to be similar and is thus, not influenced by intelligence, that intelligence does not seem to influence the locus of control and that there is a significantly positive relationship between intelligence and self-concept. The ISP students had a higher self-concept.

Sharma (1993) administered a verbal intelligence test to 24 junior high school students. The students were classified into 3 groups: 8 below average, 8 average and 8 above average on the basis of their performance in the test. They were then administered the Indian adaptation of Lowenfeld Mosaic Test. All 3 groups differed significantly in their projective performance in the selection of different colors and shape and in selecting the space on the tray. Results indicate significant effects of intelligence on projective performance of children.

Jerath & others (1993) examined anxiety scores of high, above average and average intelligence groups of undergraduates, with both introverted and extraverted personalities, who were subjected to verbally induced stress and task oriented (situations). Findings revealed that high intelligence groups, introverts, task-oriented groups, and males had significantly lower state anxiety than their counterparts.

Diaz & others (1994) conducted a study on 122 delinquent and 421 non-delinquents adolescents (aged 12-16 years) to examine personality dimensions and found intelligence to be a good predictor for discriminating both male and female delinquents from non-delinquents.

Usha & others (1994) investigated the effects of socioeconomic status, intelligence, and anxiety on the psychosocial adjustment of 255 boys and 223 girls, aged 9-11 years. Subjects completed a personal data sheet, Wechsler Intelligence Scale for Children (WISC), for Indian Children, the Carl Rogers Test of Personality Adjustment, and the Manifest Anxiety Scale. Boys were found to have higher
intelligence scores than girls and intelligent children had fewer adjustment problems compared with those with lower IQ.

Czecklik & Rost (1995) investigated the relation between intelligence and 5 sociometric types: populars, rejected, neglected, controversial and average, 5861 3rd graders participated in the study. Three standardized intelligence tests and a combination of 3 ratings, which corresponded to the intelligence tests, were supplied by the teacher. Results showed a positive relation between intelligence and popularity and a negative relation between rejection and intelligence.

Holt & Willard-Holt (1995) explored that intellectually gifted students possess a number of common characteristics, one of which is an advanced sense of humor. He found the equivocal relationship between intelligence and humor. Highly intelligent students are more humorous than low intelligent students.

Ciarkowska (1995) using the Progressive Matrices, conducted a study on 45 17-18 years old secondary school students who were identified as highly intelligent, and 45 were identified as of average intelligence. Students were randomly assigned to experimental conditions varying in mental workload. Students performed percept that task and arithmetic via geometrical symbols. Irrespective of mental workload (MWL) and type of cognitive task, highly intelligent students were more efficient task performers. On a psychological level (assessed by State Trail Anxiety Inventory), highly intelligent students were more affected by time pressure than were students with average intelligence.

Singh & Srivastava (1995) explored the development of the conception of intelligence among 90 Indian children (Grades 4-12). Students were asked to narrate the characteristics of 2 of their classmates whom they considered most and least intelligent. Responses were analyzed into 4 categories (i.e., skill and ability, behaviour and habit, likes and dislikes, and achievement). Students perceived the most intelligent child to be good at cognitive, behavioural and interpersonal relationships. Such a child likes and is liked by teachers, friends and family members and obtains higher grade in the class.

Abel (1996) assessed the intellectual abilities of 125 children (aged 5-15 years) using human figure drawing.
Aman & others (1997) explored that children with low intelligence appeared to have significant behavioural and emotional problems in their early adolescence.

Allik & Realo (1997) conducted a study on 405 Estonians and Estonian Speaking Russian subjects (aged 17-39 years) to investigate how individuals with low and high intellectual abilities use their intellectual resources differently to express their individuality. It was found that low intelligence persons use their intellectual abilities for seeking excitement and elaborating fantasies while high intelligence persons use their intellectual for regulating and controlling their affective lives.

Aranha & Rangel (1997) conducted a study on 345 3rd and 4th graders. The students were assessed for intelligence, creative thinking abilities and sociometric choice of peers. The findings reveal that populars were more intelligent and creative than that of other groups.

Halpern & others (2000) conducted a study on adolescents (in the age ranges of 11-21 years and 12.5-14.7 years) to investigate the relationship between scores on the Peabody Picture Vocabulary Test (PPVT) and their partner’s sexual activity. He found that subjects having high intelligence were less likely to have sexual intercourse than the subjects have low intelligence. It is concluded that higher intelligence operates as a protective factor against early sexual activity during adolescence. To a point, lower intelligence is a risk factor.

2.4 INTERPRETING INTELLIGENCE THROUGH DRAWINGS

Various researchers have attempted to interpret intelligence of children through drawings. Some of the major studies are as follows:

Goodenough's Draw a Man Test (1926)

Goodenough (1926) for the first time propounded a new theory that intelligence of children could also be interpreted and predicted through drawings of human figure. She constructed a test 'draw-a-man' asking children to draw a human figure.

Each presence of human limb, body part that too in shape and proportion was given due consideration and scored. The sum total of one score was used to look for Mental age & I.Q. according to levels of C.A. where other type of tests fail in
measuring intelligence of young children, 'Draw-a-man Test' successfully does this job, its theme being attractive as well as familiar to children. Its norms are available age and sex wise.

**Pathak's Draw-a-Man Test for Indian Children (1956-58)**

Pathak (1958) has concentrated on the prediction of intelligence only, and introduced only one variable "motor coordination" as one of the variables. Its norms are available on age and sex basis.

Ivanoff (1909) maintained that, better students' tend to draw fairly well, and those who are especially good in free design; generally have high intelligence whereas poor students are usually poor in drawings.

Anatasi & Foley (1940) studied some 600 drawings from the International Exhibition of Children's paintings held in New York (1934) and reported that they do not seem to be much different, which show that, as far as subject matter and technique of drawing is concerned, they reflect specific 'cultural factors' rather than the artist's developmental stages.

Munro, Horvitz & Bernhart (1942) through their study of the children's 'Art Ability' put forth their opinion that, "Intelligence is positively correlated with drawing ability". They hold that, "who draw well are also bright".

Russell (1956) also corroborates with the ideas propounded by Munro & others, when he says, "There are generally observable relationships between drawing ability, reading ability, over-all school achievement and intelligence."

Silver (1983) describes a drawing test that can be useful in identifying children who have intellectual abilities. Two such children are considered: an 8 year old learning disabled boy and a 14 years old “average” male student. The test consists of 3 drawing tasks designed to assess levels of ability in conceptual, spatial, and sequential thinking. It assesses ability to associate and form concepts. Drawing responses are also scored for projection of feeling and for language skills. Drawings by both students are presented and discussed.

Robu (1984) analyzed 3,000 drawings of trees by 77, 3-13 years old using global indicators for students’ intellectual capacities and psychological development level. Results indicate that younger students had difficulties with graphic coordination
and mental representation as an expression of intellectual development. It is concluded that the test is a useful source of psychological information concerning personality characteristics of children.

O'Shea (1894), Elkisch (1945), Gonder (1956), Murrey & Anwar (1961), Sharma (1972), Malik (1978), Malik (1984), Azad (1991) have also tried to interpret intelligence of children through drawings.